

Tropical Agriculture
Tropical Agriculture International Program
Course Description 2016-2020

01001211 Paradigm in Agricultural Extension 3 (3-0)

Importance of agricultural sector, paradigm shift of agricultural extension, information sources and accessibility, thinking system, knowledge management. Value adding of agricultural product and service. Strategy and technique for building participation. Change management, sufficiency economy, sustainable development and success indicator.

01001331 Communication for Agricultural Development 3 (3-0)

Agricultural policy, trend in agricultural production change, economic and social change, impact on agricultural production system, policy and trend analysis in agriculture for agricultural extension and development.

01002111 Animal Science and Technology 3 (3-0)

Importance of animal production, relationship to other agricultural production sectors, science and technology in animal production, farm management and the environment, primary products and animal products, livestock marketing, future trend of animal production.

01002302 Animal Resource and Management 3 (3-0)

Animal resources and management, waste minimization technologies, handling and treatment of animal farm wastes and value-adding and recycling of animal wastes.

01004211 Insect Science (Pre: 01424111) 3 (2-2)

Insect biology; morphology, life cycle and development, physiology, ecology, evolution and diversity; insect classification, collection, preservation and identification. Principles of insect control.

01005221 Tropical Agricultural Machinery 3 (2-3)

Principles of farm machinery for tropical agriculture. Power and tractor. Field efficiency of tropical farm machinery. Factors affecting operation efficiency of tropical farm machinery. Automatic control of farm machinery. Management of tropical farm machinery. Mechanization for rural development.

01005449 Tropical Greenhouse Management 3 (3-0)

Model and structure of tropical greenhouse. Location of greenhouse. Cooling and air ventilation system. Water, light, temperature, carbon dioxide, insect and disease control in greenhouse.

01008211 Introductory of Plant Pathology 3 (2-3)

History and importance of plant diseases; plant disease concept; etiology, symptom, disease development, epidemiology, classification, diagnosis; principles of plant disease control and biotechnology in plant pathology.

01009112 Soil Science (Pre: 01403111, 01403113) 3 (2-1)

Importance of soil, soil genesis, soil compositions, physical, chemical and biological soil properties, soil organic matter and soil microorganisms, plant nutrients, fertilizers and its usage, soil survey and classification, soil and water conservation, applications of soil and environmental information.

01013111 Introduction to Tropical Agriculture 3 (3-0)

Importance of tropical agriculture, tropical ecosystem, production resources, production system, marketing, logistics, utilization, value creation, quality and safety of produce and products, economics and tropical agriculture business, international trade of agricultural commodities.

01013221 Tropical Entomology (Pre: 01004211 Insect Science) 3 (2-3)

Tropical ecosystem and tropical insect diversity, roles of environment and global warming on insect community, important insect pest of tropical agriculture and their management. Insect problems in international trades of agriculture commodities.

01013231 Principles of Tropical Agronomy 3 (3-0)

Agro-meteorology and climate change in the tropics, genetics resources and crop improvement, biotechnology and tropical crop production, crop system an pattern, tropical crop production and management, seed production, new technology an research of tropical agronomy.

01013232 Introduction of Tropical Horticulture 3 (3-2)

Importance and classification of Tropical Horticulture. Basic factors related to plant growth and development. Vegetable, ornamental plant, fruit crop, medicinal plant and spice production system. Landscaping and horticulture for daily life. Field trip required.

01013299 General Practicum 2 (2-0)

General farm practices in agronomy, horticulture, pest management, soil and fertilizer, economic animal husbandry and far machinery.

01013322 Tropical Plant Disease Management (Pre: 01008211 Introductory of Pathology) 3 (2-3)

Overview of tropical plant pathology, epidemiological concepts, crop loss evaluation, cultural practices, principles of biological control, production of disease-free plants, plant resistance, physical control techniques, chemical used in plant disease control.

01013331 Tropical Field Crop Production for Food, Feed and Fuel 3 (3-0)

Demand, consumption, significance and characteristics of tropical field crop for food, feed and fuel. Production and utilization of tropical food, feed and fuel crops. Tropical field crop for food, feed and fuel, i.e. rice, corn, soybean, cassava, sugarcane, oil palm, forage and biomass plants, tropical pulse crops, physic nut and others.

01013332 Tropical Economic Horticulture (Pre: 01401114 General Botany) 3 (2-3)

Characteristics of tropical fruit crop, vegetable, ornamental plant, medicinal plant and spice of economic importance. Cultivars and production area. Field trip required.

01013341 Tropical Soil Resources 3 (3-0)

Tropical environments, importance, potential and constraints of tropical soil resources, characteristics, distributions and properties of tropical soils, soil organic matter and fertility management, tropical agricultural biodiversity and limitation, land use and impact on global environment. Field trip required.

01013399 Specific Practicum (Pre: 01013299 General Practicum) 3 (3-0)

Specific practicum in tropical agriculture. Field trips required.

01013497 Seminar

Presentation and discussion on current interesting topics in tropical agriculture at the bachelor's degree level.

01401114 General Botany 3 (2-3)

General principles of plant morphology, anatomy, physiology, and ecology, classification and evolution of plants. Uses of plants.

01403111 General Chemistry 4 (4-0)

Atoms and electrons in atoms, periodic system, chemical bonding, naming inorganic compounds, chemical reactions, gases, solutions, electrolytes and their ionization, fundamental thermodynamics, chemical kinetics, chemical equilibria, acids-bases-ionic equilibria, and electrochemistry.

01424112 Laboratory in Biology 1 (0-3)

The course is established to fulfill the lecturing course 01424111 Principles of Biology. The objective is to give the students involve the practical study of biological process and laboratory technique. Enhance their skills and how to handle the equipments and chemicals. Stimulate their creativity and observation in each experiment.

01002342 Introductory Physiology of Domestic Animal (Pre : 01423113) 3

Functions, mechanisms and interrelations of biological systems in domestic animals for appropriate management and highest production in full potential of the animals.

01003451 Physiology of Plant Production (Pre : 01003211, 01003212, 01401351)

Physiological aspects of crop growth, application to cultural practices with strong emphasis on influences of light, temperature, water and soil minerals on crop yield.

013007451 Physiology of Horticulture (Pre : 01401351, 01402311) 3

Basic physiology of horticultural crops. Environment and other factors affecting horticultural crop production.

01999141 Man and Society 3(3-0) 3 (3-0)

Human nature, behavior, and settlement. The relationship of man, society and culture. Economic, political and legal aspects of social organization. Background of Thai society. Social change and social problems.

01355112 Foundation English II 3 (3-0)

Exposure to significant structures of the English language as the basis of developing language abilities: listening, speaking. Reading and writing through language skill integration with emphasis on communicative competence on a higher level.

01355113 Foundation English III 3 (3-0)

Exposure to significant structures of the English language abilities: listening, speaking, reading and writing through language skill integration with emphasis on communicative competence at a more complex level.

355202 Fundamental English Writing 3(3-0)

Writing from models using appropriate structure and vocabulary.